



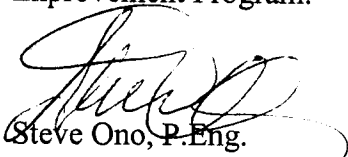
City of Richmond


Report to Committee

To: Public Works and Transportation Committee *To Public Works + Transportation - May 23/02*
Date: April 11, 2002
From: Steve Ono, P.Eng.
 Director, Engineering **File:** 6045-14
Re: **Broadmoor Storm Sewer Single Lot Local Improvement Program**

Staff Recommendation

That Council endorse single lot storm sewer ditch infill in Broadmoor through the Local Improvement Program.


 Steve Ono, P.Eng.
 Director, Engineering

FOR ORIGINATING DIVISION USE ONLY		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Sewerage & Drainage.....	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
Budgets	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	

Staff Report

Origin

During the fall of 2000, residents in the Broadmoor area expressed their desire to have open ditches filled in and replaced with a storm sewer system. Still other residents expressed concerns that they would not be able to bear the cost of having storm sewers installed under the conventional Local Improvement Program (LIP).

In response to these concerns on July 23, 2001, Council approved retention of a consultant to undertake a storm sewer pre-design study for Broadmoor. The intent of the study was to investigate the feasibility of allowing single lot storm sewer ditch infills through the Local Improvement Program. If feasible, this would enable staff to provide property owners who apply for a culvert installation permit with the option of installing a portion of the permanent storm sewer along the frontage of their property in accordance with the storm sewer pre-design.

The purpose of this report is to advise of the outcome of the storm sewer pre-design study and to request Council's endorsement of single lot LIP's in Broadmoor.

Analysis

The recently completed Broadmoor Storm Sewer Pre-Design study summarizes the ultimate storm sewer infrastructure requirements fronting individual properties and indicates that single lot LIPs are feasible in approximately two thirds of the study area. The single lot LIP option, however, presents new challenges compared to the typical larger scale LIP storm sewer ditch infill projects. Pros and cons of the single lot LIP are presented below:

Single Lot LIP	
Pros	Cons
Creates a mechanism for residents to get ditches filled in to an ultimate condition in Broadmoor, where technically feasible.	May create a fragmented approach to filling in ditches, potentially causing maintenance concerns. This is similar to culvert infill under the current permit process.
Does not penalize adjacent properties for not wanting to participate in ditch infills.	More costly per metre of pipe construction, than larger scale infills.
Allows the City to contribute 1/3 of the cost in accordance with the Local Improvement Program, reducing the burden on residents.	
Advances the construction of permanent storm sewers along local roads in Broadmoor	Is not technically feasible in some areas in Broadmoor.
Improves stormwater conveyance to the major drainage system, and pump stations.	

The City will also be responsible for upgrading storm sewers at laneway and roadway crossings where existing culverts are undersized or at different elevations. Such upgrades will be considered only when required to make an adjacent proposed LIP upgrade technically feasible.

Based upon the storm sewer pre-design for Broadmoor, it is evident that the single lot storm sewer ditch infill is a technically feasible option for approximately two thirds of the single family lots in Broadmoor. For one third of the lots, a single lot storm sewer ditch infill is not technically feasible, primarily because the proposed ultimate storm sewer must be constructed lower than the existing ditch on either side of the property. In these cases, residents will be encouraged to pursue larger scale storm sewer ditch infills through the LIP, or consider temporary culvert infills through the current permit process. It should be noted that all design, construction and maintenance costs are the resident's responsibility through the culvert infill permit process.

Financial Impact

The average cost of a single lot storm sewer ditch infill through the LIP in Broadmoor is estimated to be \$6,400 for a typical 20 metre wide lot. Through the LIP process, a bylaw would be enacted, enabling the City to pay one third of the cost and the property owner the remaining two thirds.

Therefore, for an average 20 metre wide lot, the cost breakdown is as follows:

Resident's cost	\$ 4,300
City's cost	\$ 2,100
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Total estimated average cost	\$ 6,400

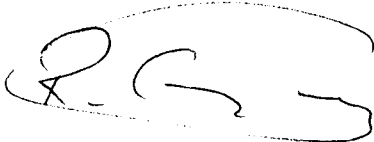
Currently staff have received three requests for single lot storm sewer ditch infill applications through the LIP in Broadmoor. As the 2002 Capital Program includes \$750,000 for LIP projects, there is sufficient funding should residents wish to proceed with the single lot storm sewer ditch infills through the LIP.

Ultimately, there are 324 lots in Broadmoor where single lot ditch infills could apply. The following table summarizes total estimated costs in Broadmoor, should residents choose to proceed on a LIP basis:

Total storm sewer ditch infill cost for 324 lots @ \$6,400	\$ 2,073,600
Resident's 2/3 contribution	\$ 1,382,400
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City's 1/3 contribution	\$ 691,200
City's cost for upgrading road and laneway crossings	\$ 335,000
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Total Estimated Cost to City for ditch infill for Broadmoor	\$ 1,026,200

Conclusion

Staff recommend that Council support the single lot LIP storm sewer ditch infill concept because it will satisfy most residents without penalizing those who do not wish to participate in a LIP initiative. For two-thirds of the Broadmoor area, the technical challenges can be overcome by requiring that a Professional Engineer complete the civil designs as well as having the City inspect construction to ensure that future maintenance does not become onerous.

A handwritten signature in black ink, appearing to read 'R. Gonzalez', enclosed within a hand-drawn oval border.

Robert Gonzalez, P.Eng.
Manager, Engineering Design and Construction

RG:rg